REMARKS

In the Office Action of September 25, 2002, a restriction requirement was imposed between the various species of the invention, which is drawn to methods of producing L-β-lysine. The Examiner found that the use of each related pair of nucleic acid and polypeptide sequences constitutes a separate invention as follows:

(A). SEQ ID NO: 1 or a sequence encoding SEQ ID NO: 2.
(B). SEQ ID NO: 3 or a sequence encoding SEQ ID NO: 4.
(C). SEQ ID NO: 5 or a sequence encoding SEQ ID NO: 6.
(D). SEQ ID NO: 7 or a sequence encoding SEQ ID NO: 8.
(E). SEQ ID NO: 9 or a sequence encoding SEQ ID NO: 10.
(F). SEQ ID NO: 11 or a sequence encoding SEQ ID NO: 12.
(G). SEQ ID NO: 13 or a sequence encoding SEQ ID NO: 14.
(H). SEQ ID NO: 15 or a sequence encoding SEQ ID NO: 16.

Office Action, p. 2. Applicant respectfully traverses the restriction requirement imposed by the Examiner.

In the Restriction Requirement, the Examiner asserted that the eight inventions are unrelated. The Examiner stated that based on MPEP § 806.04 and MPEP § 808.01, inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects. The Examiner further asserted that in the instant case the different inventions have different effects because the vectors of the claimed methods "represent structurally different polynucleotides and the polypeptides encoded by them. Therefore, where structural identity is required, such as for hybridization or expression, the different sequences have different effects."

However, the MPEP § 803 additionally states that if:

> If the search and examination of an entire application can be made without serious burden, the examiner **must** examine it on the merits, even though it includes claims to independent or distinct inventions. (emphasis added).

It is respectfully submitted that the claimed inventions (A)-(H) are closely related and the search and examination of inventions (A)-(H) together would not be a serious burden for the Examiner. As the Examiner admits on page 2 of the Restriction Requirement, all of the claims "are drawn to a method of producing L-β-lysine[.]" The only difference between each invention is that the lysine 2,3-aminomutase polynucleotide and polypeptide sequences come from different species of organisms. Because the function and use are the same for each sequence, a search of inventions (A)-(H) will not prove a great burden for the Examiner.

A serious burden on the Examiner allowing for insistence upon restriction of related inventions as claimed may be *prima facie* demonstrated if the Examiner shows by appropriate explanation either separate classification, separate status in the art, or a different field of search for the different groups of claims. *See*, MPEP §§ 803 and 808.02.

With respect to classification of the claimed methods, the Examiner has determined that all the claims are drawn to methods from the identical class (435) and subclass (233). Office Action, p. 2 ("All of the claims, 29-36 [applicants presume the Examiner intended to refer to pending claims 29-31 and 36-46], are drawn to a method of producing L-β-lysine, classified in class 435, subclass 233"). Clearly, the inventions lack separate classifications, and this cannot serve as a basis for a proper restriction requirement.

Yet the Examiner states on page 3 that inventions (A)-(H) have "acquired a separate status in the art as shown by their separate classification." It is unclear to applicants to which classifications the Examiner is referring. Without further explanation from the Examiner, applicants are forced to speculate that the Examiner intends to say that because the compositions represented by the sequences may have different classifications, the methods of

the invention are rendered distinct. Such an assumption would be incorrect because, as noted above, the sequences all have the same function and effect in the claimed methods: allowing the production of L-β-lysine. Furthermore, applicants do not claim the compositions represented by the sequences. Examiner's examples of how the inventions have different effects, i.e., hybridization and expression of the polynucleotide sequences of inventions (A)-(H), are thus irrelevant. The claimed methods do not depend on the structural identity of the sequences. In short, inventions (A)-(H) cannot have a separate status in the art, and Examiner has not presented any evidence to the contrary.

Regarding the field of search, although it is suggested in the Restriction Requirement that a different search is required for each of inventions (A)-(H), given that all the pending claims share the same classification and subclassification, applicants submit that it is not necessary to search for one of the distinct subjects in places where no pertinent art to the other subject exists. Further, assuming arguendo, that such a search was necessary, the MPEP points out that "in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction," and that "nucleotide sequences encoding the same protein are not considered to be independent and distinct inventions and will continue to be examined together." § 803.03, "Restriction – Nucleotide Sequences." Applicants note that only eight nucleotide sequences and their corresponding amino acid sequences are at issue. Further, the nucleotide sequences all encode the same enzyme, lysine 2,3-aminomutase, and are relatively short. Thus, under the Patent Office's own rules, the number of sequences is reasonable and the inventions are not patentably distinct. Restriction between inventions (A)-(H) is, therefore, not proper.

Because the use and function of the sequences of inventions (A)-(H) remain identical within each independent claim, the inventions are not patentably distinct. For this reason, Applicant respectfully contends that any search directed to the method set forth in the claims directed to species (B) will substantially overlap with a search directed to the methods of species (A) and (C)-(H). Applicants, therefore, respectfully maintain that the search and examination of inventions (A)-(H) may be made without seriously burdening the Examiner.

Applicants therefore respectfully request that the Examiner reconsider and withdraw the restriction requirement between (A)-(H).

CONCLUSION

For the foregoing reasons, it is respectfully submitted that inventions (A)-(H) in are closely related, that the groups may be examined together without placing a serious burden on the Examiner, and that appropriate reasons for insisting upon restriction of the claims have not been properly established. Thus, it is respectfully requested that the restriction requirement between inventions (A)-(H) be withdrawn and that pending claims 29-31 and 36-46 be examined together and in full.

Respectfully submitted,

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